

STATE OF HAWAII

TITLE 12 DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS

SUBTITLE 8 DIVISION OF OCCUPATIONAL SAFETY AND HEALTH

CHAPTER 224

PRESSURE VESSELS

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Historical Note: Chapter 224 of title 12 is based on chapter 377 of the Hawaii Occupational Safety and Health Standards, Rules and Regulations. [Eff. 7/11/74; am 12/30/76; am 8/1/78; R 12/6/82]

§12-224-1 Maximum allowable working pressure for standard pressure vessels. The maximum allowable working pressure for standard pressure vessels shall be determined in accordance with the applicable provisions of the edition of the ASME Code under which they were constructed and stamped. [Eff. 12/6/82; comp 12/6/90] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-224-2 Maximum allowable working pressure nonstandard pressure vessels. The maximum allowable working pressure of a nonstandard pressure vessel shall be determined by the strength of the weakest course computed from the thickness of the plate, and the efficiency of the longitudinal joint, using the lowest stress values for the applicable material from Section VIII, Division 1, ASME Code. [Eff. 12/6/82; comp 12/6/90] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-224-3 Overpressure protection. All pressure vessels within the scope of this chapter irrespective of size or pressure shall be provided with protective devices in accordance with the ASME

Code, Section VIII. When safety or safety-relief valves are used, they shall comply with section 12-221-6. [Eff. 12/6/82; am and comp 12/6/90] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-224-4 Pressure gage. Each pressure vessel, or system of pressure vessels with no intervening valves, shall be equipped with a pressure gage graduated to not less than 1-1/2 times nor more than 3 times the pressure at which the safety or safety-relief valve is set. [Eff. 12/6/82; comp 12/6/90] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-224-5 Repairs and renewals of fittings and appliances. Whenever repairs are made to fittings and appliances or it becomes necessary to replace them, the work must comply with the requirements for new installations. [Eff. 12/6/82; comp 12/6/90] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-224-6 Clearances. Except as otherwise authorized by the department, clearances for pressure vessels shall not be less than 3 feet where inspection openings are provided. Vessels having manholes shall have 5 feet clearance from the manhole opening and any wall, ceiling, or piping that will prevent a person from entering. All other sides shall not be less than 18 inches between the vessel and adjacent walls or other structures. Under no circumstances shall an air receiver be buried underground or located in an inaccessible place. [Eff. 12/6/82; am 12/8/86; comp 12/6/90] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-224-7 Drains and traps. A drain pipe and valve shall be installed at the lowest point of every pressure vessel subject to internal corrosion to provide for draining or the removal of accumulated oil and water from an air receiver. Adequate automatic traps may be installed in addition to drain valves. The drain valve on an air receiver shall be opened and the receiver completely drained frequently and at such intervals as to prevent the accumulation of excessive amounts of liquids in the receiver. [Eff. 12/6/82; comp 12/6/90] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-224-8 Use of thermoplastic piping. The use of thermoplastic piping, known as PVC piping, to transport compressed air or other compressed gases, or the testing of this piping with compressed air or other compressed gases, in exposed above ground locations is prohibited. All thermoplastic piping used to transport compressed air or other compressed gases shall be buried underground or encased in shatter-resistant materials. In designing thermoplastic piping systems to transport compressed air or other compressed gases, the strength at the operating temperature, the pressure, the energetics, and specific failure mechanisms shall be evaluated. [Eff. 12/6/82; comp 12/6/90] (Auth: HRS §397-4) (Imp:

HRS §397-4)

§12-224-9 Beltguards. Beltguards shall be installed on air compressor units. [Eff. 12/19/83; comp 12/6/90] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-224-10 Thermometer. Pressure vessels used for the containment of heated liquid shall be provided with a thermometer in addition to the pressure gage required in section 12-224-4. For pressure vessels having more than one temperature zone, the location of the thermometer shall be determined by the inspector. [Eff. 12/19/83; comp 12/6/90] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-224-11 Isolating valves. Each pressure vessel or multiple pressure vessels connected in series shall have isolating valves which isolate the vessel or vessels from the system in which it or they are installed. [Eff. 12/19/83; comp 12/6/90] (Auth: HRS §397-4) (Imp: HRS §397-4)